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Ninth progress report on the enterprise resource planning project

Report of the Secretary-General

Summary

The present report is submitted pursuant to General Assembly resolution 64/243, in which the Assembly requested the Secretary-General to provide annual updates on the progress of the enterprise resource planning project, Umoja. The report provides an update since the issuance of the eighth progress report (A/71/390).

Umoja is one of the most important transformative initiatives for the Secretariat. For the first time, the Secretariat has a single, global solution that is enabling efficient and transparent management of the Organization's financial, human and physical resources. Umoja has replaced a variety of legacy systems, streamlined and integrated numerous fragmented and non-standard processes, automated resource-intensive manual processes, including by eliminating many paper forms, enabled self-service for staff and managers and provided real-time visibility to global data.

The introduction of end-to-end process management has been one of the most significant changes triggered by Umoja, requiring the Organization to adopt a horizontal, cross-functional view of its administrative tasks in order to fully achieve its objectives of improving productivity, lowering costs, reducing cycle times, increasing transparency and enhancing the quality of services.

The Umoja user base has expanded to over 42,440 staff across 400 locations globally; over 103,000 enterprise roles have been assigned cumulatively to more than 15,800 users, while employee and manager self-service are recording high levels of usage. For Umoja Foundation and Extension 1, attention has shifted to "continuous improvements", triggered by a greater appreciation for the system's capabilities, opportunities for the business delivery model and a better assessment of the

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underlying reasons for user adoption and business adoption challenges. Umoja Extension 2 is being developed in several concurrent work streams for deployment mainly during 2018.

The present report covers progress in developing and deploying Umoja Extension 2, changes to the International Civil Service Commission compensation package, continuous improvements to Umoja Foundation and Extension 1 and a major SAP software upgrade. It is confirmed in the present report that the project is on schedule and within the budget presented in the eighth progress report.

Section III highlights the successful deployments of cluster 5 in November 2016, the financial statements module for eight non-peacekeeping volumes in February 2017, the changes to the International Civil Service Commission compensation package in January and September 2017, phase 1 of supply chain management (decommissioning of Galileo) in September 2017, and the stabilization of clusters 3 and 4, reflected in the declining number of incidents requiring production support as well as growing evidence of user adoption.

Section IV outlines the project workplans until the end of 2018, including plans for the implementation of the full scope of Umoja by December 2018, as reiterated by the General Assembly in its resolution 70/248 A.

Section V contains the updated business case for the Umoja project requested by the General Assembly in its resolution 71/272 A, including an analysis of qualitative and quantitative benefits, direct and indirect costs and total cost of ownership. The section also outlines a programme for monitoring continuous improvements and an assurance project aimed at ensuring the sustained realization of benefits.

Section VIII includes an estimate of resources required for the biennium 2018-2019, in line with proposals already presented in the eighth progress report.

Section IX contains the recommended actions for the General Assembly, including a request to take note of the progress of the project and to approve the resource requirements for 2018 and 2019, including the proposed reorganization of post structures.

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I. Introduction

1. The present report is submitted pursuant to General Assembly resolution 64/243, in which the Assembly requested the Secretary-General to provide annual updates on the progress of the enterprise resource planning project, Umoja. It provides an update on the status of the project since the issuance of the eighth progress report (A/71/390) and addresses the decisions of the Assembly in its resolution 71/272 A.

II. Project management, governance and oversight

A. Governance overview

2. Umoja continues to benefit from the strengthened governance model, first described in the fifth progress report (A/68/375 and Add.1). The Secretary-General remains a proactive champion of the project. The Management Committee, chaired by the Chef de Cabinet, reviews the project status periodically and provides guidance on strategic issues. The Umoja Steering Committee, chaired by the Under-Secretary-General for Management, meets monthly to oversee the strategic and operational management of the project. Heads of business units are actively engaged and reinforce the awareness and commitment of their departments and offices.

3. Senior managers have a key role to set the tone for an "enterprise approach" and an openness to re-engineer their current processes and practices for the greater good of the Organization. In order to manage and ensure the realization of continuous improvements, strategic and technical initiatives are being operationalized in synergy to ensure that the Umoja solution is technically upgraded and improved as needed. Strategically, a new iteration of the post-implementation review task force, working closely with the global service delivery model team, will assess the business re-engineering requirements of the global Secretariat. On the technical front, a diagnostic process for continuous improvements has been initiated to provide detailed information and visibility on Umoja adoption and use. Project management continued to be strengthened to deal with the new pressures of concurrent work streams and a heavy portfolio of projects.

B. Implementation of oversight bodies' recommendations

4. During the reporting period, the project was audited by both the Board of Auditors and the Office of Internal Oversight Services (OIOS).

5. The Board of Auditors, in its sixth annual progress report on the implementation of the United Nations enterprise resource planning system (see A/72/157), acknowledged that implementing Umoja globally across more than 40,000 staff in 400 locations was a significant achievement, given the project's complexity and difficult start. The Board observed that Umoja remained central to the successful reform and modernization of the administration of the United Nations and had the potential to generate major benefits for the Organization and for Member States, and that business units must continue to take full ownership of Umoja and work closely and constructively with process owners and the Umoja team to optimize the solution.

6. The Board had made 43 recommendations since the first audit, in 2012. Of the 18 pending recommendations from the Board's previous reports, all of which had been accepted by the Administration, four had been fully implemented, 12 were

under implementation and two were assessed by the Board as not yet implemented; for those two, which relate to production support and which have been substantially implemented, the Administration will present evidence to support the closure of one and proposes that the second be treated as overtaken by events. In its sixth annual progress report, the Board made six main recommendations covering, among other things, benefits realization, risk management, training and business intelligence.

7. OIOS conducted several audits during the reporting period, with a continuing emphasis on assessing the implementation and change management undertaken by implementing entities. Nineteen audit reports on Umoja issued since the project's inception contain 196 recommendations. Of those, 14 recommendations are outstanding, nine of which are currently under implementation; the Administration will provide evidence, for consideration by OIOS, to support the closure of the remaining five.

III. Project status

A. Overview of project milestones and achievements

8. The major milestones of the project since its inception are presented in table 1.

Table 1
Umoja major deployment milestones, 2013-2018

Date	*Phase*	*Umoja deployment*	*Status*
July 2013	Foundation	Pilot at UNIFIL and UNSCOL	Completed
November 2013		Cluster 1: Foundation deployed to all peacekeeping missions	Completed
March 2014		Cluster 2: Foundation deployed to all special political missions	Completed
July 2014	Integration pilot	Extension 1 deployed to MINUSTAH	Completed
	Foundation	Real estate deployed to United Nations Headquarters, UNON and ECA	Completed
November 2014		Real estate deployed to the entire Secretariat	Completed
June 2015	Integration[a]	Cluster 3: Foundation and Extension 1 deployed to the Office for the Coordination of Humanitarian Affairs, UNON, UNEP, UN-Habitat, ESCAP and UNAKRT	Completed

Date	*Phase*	*Umoja deployment*	*Status*
November 2015		Cluster 4: Foundation and Extension 1 deployed to United Nations Headquarters, UNOG, UNOV, ECA, ESCWA, ECLAC, ECE and the international tribunals	Completed
	Extension 1	Cluster 4: Extension 1 deployed to special political missions and peacekeeping missions	Completed
July 2016	Foundation	Service delivery deployed to special political and peacekeeping missions	Completed
	ICSC	ICSC phase 1: changes to relocation-related elements and some field allowances and benefits	Completed
August 2016	Integration	Financial statements (vol. II)	Completed
November 2016	Extension 1	Cluster 5: Extension 1 implemented for national staff and individual uniformed personnel in special political and peacekeeping missions	Completed[b]
	ICSC	ICSC phase 1 (a): mobility incentive plus the discontinuation of the non-removal allowance	Completed
January 2017	ICSC	ICSC phase 2: interim measures for unified salary scale, transitionary measures and other changes effective 1 January 2017	Completed
February 2017	Integration	Financial statements (vol. I), UNEP, UN-Habitat, UNODC, the international tribunals and ITC	Completed
September 2017	Extension 2	Supply chain management (phase 1)	Completed
	ICSC	ICSC phase 2 changes retroactive to 1 January 2017	Completed
January 2018	ICSC	ICSC phase 3: education grant	In progress
September 2018	Extension 2	Strategic planning, budget formulation and performance management	In progress
		Supply chain management (phase 2)	In progress
		Conference and event management	In progress
		Other Extension 2 projects	In progress
	SAP upgrade	SAP software upgrade	In progress

Date	*Phase*	*Umoja deployment*	*Status*
December 2018	Extension 2	Supply chain management (phase 3)	In progress
		Fundraising and donor relationship management[c]	In progress
		Implementing partners[c]	In progress
		Force management	In progress

Abbreviations: ECA, Economic Commission for Africa; ECE, Economic Commission for Europe; ECLAC, Economic Commission for Latin America and the Caribbean; ESCAP, Economic and Social Commission for Asia and the Pacific; ESCWA, Economic and Social Commission for Western Asia; ICSC, International Civil Service Commission; ITC, International Trade Centre; MINUSTAH, United Nations Stabilization Mission in Haiti; UNAKRT, United Nations Assistance to the Khmer Rouge Trials; UNEP, United Nations Environment Programme; UN-Habitat, United Nations Human Settlements Programme; UNIFIL, United Nations Interim Force in Lebanon; UNODC, United Nations Office on Drugs and Crime; UNOG, United Nations Office at Geneva; UNON, United Nations Office at Nairobi; UNOV, United Nations Office at Vienna; UNSCOL, Office of the United Nations Special Coordinator for Lebanon.

[a] Integration represents Foundation plus Extension 1.

[b] Travel module to be deployed in early 2018.

[c] Likely to be advanced to September 2018.

9. The Umoja solution is currently supporting a complex organization in more than 400 global locations, with over 15,800 Umoja transactional and business intelligence users and over 103,000 roles provisioned cumulatively, as shown in annex I. Including employee self-service users, the number of users has grown to over 42,400. Umoja is also now integrated with other enterprise systems, such as Inspira, iNeed and Unite Identity, to provide more holistic access to information and more streamlined processes. Business-to-business interface capability has also been enabled with a vendor, opening up possibilities for more such capabilities.

10. Umoja now covers a vast range of functions, spanning financial accounting, cost and management accounting, funds and grants management, cash management and treasury, procurement, supply chains, logistics, facilities management, real estate management, equipment maintenance, project management, service delivery, workforce management, time management, benefits management, payroll, taxes, organizational management and travel management, among others.

B. Progress: September 2016 to August 2017

Cluster 5

11. As explained in the eighth progress report, cluster 5 deployment constituted a challenge owing to the significant data cleansing and enrichment undertaken in several legacy systems and concomitant change management activities needed in field duty stations as well as Headquarters. Cluster 5 entailed the implementation of Extension 1 (including workforce planning, personnel administration, benefits management, time management, payroll and organization management, but excluding travel management) for around 12,000 national staff and 8,000 individual uniformed personnel in 38 peacekeeping and special political missions, including employee self-service for national staff.

12. Cluster 5 was successfully deployed in November 2016, in accordance with the plan indicated in the eighth progress report, engaging over 570 staff,

predominantly in the field, in a variety of deployment activities. The implementation was facilitated by the consolidation of mission payroll operations into two centres, whose payroll staff were also trained by payroll specialists from Headquarters, offices away from Headquarters and regional commissions, and effective training programmes for local process experts and human resources partners. Cluster 5 now represents the most trouble-free deployment to date, evidenced by the smooth transition from legacy systems and the absence of any significant post-deployment challenges. The extensive training organized by the Department of Field Support, including training programmes for local process experts and human resources partners, resulted in a high level of user adoption, with most users logging into the system, including for self-service. Unlike previous clusters, no post-implementation review task force was convoked for cluster 5 because of the absence of significant problems.

Financial statements

13. The financial statements module, involving new technology and called Business Planning and Consolidation, was launched for peacekeeping operations in August 2016. The module was successfully launched in February 2017 for all non-peacekeeping operations (United Nations volume I, the United Nations Office on Drugs and Crime, the United Nations Human Settlements Programme (UN-Habitat), the United Nations Environment Programme, the International Trade Centre and the international tribunals) for the 2016 financial statements, marking another milestone with regard to compliance with the mandate from the General Assembly, in its resolution 68/247 A, to use Umoja as the backbone for compliance with the International Public Sector Accounting Standards (IPSAS).

14. The use of the Business Planning and Consolidation module has resulted in a faster, streamlined process for the consolidation of financial statements, better audit trails, a centralized view of Umoja data and the release of skilled resources for better analytical reporting.

15. The Business Planning and Consolidation module was again tested successfully for the financial statements for peacekeeping operations to the end of June 2017 to ensure that changes for non-peacekeeping operations had not had an impact on peacekeeping statements.

Changes to the International Civil Service Commission compensation package

16. The changes to the ICSC compensation package approved by the General Assembly comprise three phases of implementation, with effect from 1 July 2016, 1 January 2017 and 1 January 2018. The Secretariat's implementation plans, initially communicated to the General Assembly in a note by the Secretary-General (A/70/896 and Corr.1), were superseded by a revised implementation approach outlined in a note by the Secretary-General presented to the Fifth Committee in October 2016 (A/C.5/71/CRP.1).

17. Following the implementation of some of the changes on 1 July 2016, the new mobility incentive and the discontinuation of the non-removal allowance were implemented as planned on 1 November 2016 with retroactive effect from 1 July 2016; although the software changes were delivered by the vendor in June 2016, the implementation of testing and data preparation required additional time.

18. As explained in the note by the Secretary-General of October 2016, an interim solution was implemented on 1 January 2017 for all changes mandated to take effect from that date. The final technical solution, based on the software changes delivered by the vendor on 31 October and 30 November 2016, was tested and, following proper adjustments to data, implemented successfully as planned from 1 September

2017, with retroactive effect from 1 January 2017. The last phase, comprising the new education grant scheme, has also been tested and is ready for implementation on 1 January 2018, as mandated by the General Assembly.

Umoja Extension 2: supply chain management phase 1 (Galileo decommissioning project)

19. All peacekeeping and special political missions had been using Galileo for inventory, warehouse, asset, equipment and fleet management. Galileo provided functionality for, among other things, inventory and warehouse management, write-off and disposal, property management, inter-mission and intra-mission transfers of goods, equipment maintenance and reporting.

20. Replacing Galileo with the Umoja supply chain management functionality is essential for providing the foundational data and base functionality for the Organization to pursue advanced end-to-end supply chain planning. In 2013, the replacement of Galileo was deferred during the deployment of Umoja Foundation to mitigate change management risks in field missions; as an interim solution, Galileo, the Integrated Management Information System and Umoja were integrated for field missions as part of clusters 1 and 2, while comparable Umoja functionality was deployed to other Secretariat entities in clusters 3 and 4.

21. The migration from Galileo to Umoja supply chain management involved three critical components: (a) cleansing and enriching Galileo data substantially to conform to Umoja requirements; (b) cleansing and enriching material master data and real estate data; and (c) enhancing the Umoja supply chain management functionality to include all of the Galileo functionality.

22. Although data cleansing and enrichment are the responsibility of the missions, in the interest of efficiency and consistency they were undertaken centrally in a "data factory" in Brindisi, Italy, in coordination with field missions. The Department of Field Support mobilized substantial resources to prepare data for conversion to Umoja.

23. The cleansing and enriching of the material master classifications to support the migration of data on individual missions in Galileo to a central data set in Umoja proved extremely challenging owing to a high degree of complexity and the need for very specialized expertise that was not easily available. As a result of the large number of records that had to be aligned and standardized, a team comprising members from the Logistics Support Division of the Department of Field Support and the Office of Central Support Services of the Department of Management and Umoja experts was co-located to increase efficiency to meet the deadlines.

24. In parallel with the data preparation, Umoja enhancements were designed, built and tested; the activities were converged to ensure the decommissioning of Galileo in September 2017. Product integration testing was carried out in Entebbe, Uganda, and Valencia, Spain, with participation from most peacekeeping and special political missions.

25. Property, plant and equipment and inventory for peacekeeping and special political missions were successfully migrated to Umoja in September 2017; the Umoja supply chain functionality for all peacekeeping and special political missions went live on 5 September 2017. As a result of the migration, equipment records in Umoja grew by 95 per cent, from 364,000 to 710,000; fixed asset records grew by 417 per cent, from 15,000 to 77,500; unique material master records grew by 56 per cent, from 72,000 to 112,000; and the different types of materials in the inventory increased by 1,052 per cent, from 25,000 to 288,000. The migration of very large

volumes of data involved complex conversion programmes to link open purchase orders to their related asset or inventory records.

26. With the replacement of Galileo by Umoja, the asset accounting systems across the Organization are now harmonized into a single IPSAS-compliant financial system, eliminating the need to produce Galileo reports with equipment and inventory balances and manually posting them in Umoja for the preparation of financial statements; the conversion of those balances provides visibility on fixed asset and inventory balances in real time, allowing for more effective monitoring. The global visibility of detailed information in real time for financial, budgetary and operational purposes should lead to the improved management of assets, with missions and offices no longer restricted to the view of their own holdings.

27. Although the Galileo decommissioning project went live on 5 September 2017, a dedicated team and plan have been established to review and validate a significant amount of data enrichment and standardization. Material master data management will require dedicated and specialized expertise if the full benefits of supply chain management are to be realized. Strong governance for standardization and sufficient resources for timely turnaround for master data creation will be essential to ensure viable supply chain management. Splitting the master data teams into separate specialized teams on the basis of the material categories may also have to be considered in order to streamline the process and ensure the quality of codification of goods.

28. The Galileo decommissioning project team conducted process and change impact workshops in 11 missions, the Economic Commission for Africa, the Economic and Social Commission for Western Asia and the United Nations Office at Nairobi. Training was also organized in three incremental cycles, covering 947, 1,340 and 352 users, respectively; additionally, 190 local process expert trainers were trained. The deployment effort involved around 528 person-months.

Business intelligence

29. Business intelligence is a separate component of Umoja for generating complex reports comprising large volumes of data. It comprises a business/data warehouse, with information extracted daily from multiple transactional databases in Umoja, and a web-based platform for building, sharing and accessing reports. The warehouse can also store data from other systems to enable users to design reports blending contextual information from multiple systems.

30. With basic training, Umoja transaction users can normally run any accessible business intelligence report. Around 880 users have received advanced business intelligence training; as analytical users, they can build their own reports using any data accessible to them in the business/data warehouse. Of those analytical users, 230 are also power users who can publish their reports for others to use.

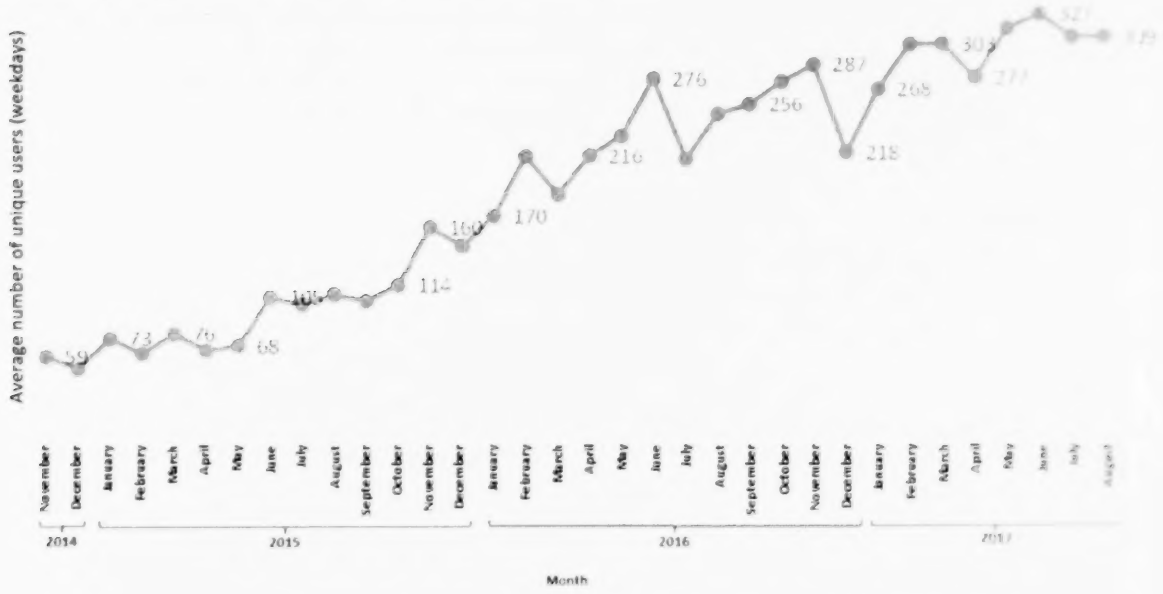
31. While Umoja has more global and functionally diverse data than ever before, extracting information requires good business knowledge and some technical skills. For example, Umoja has separate but interlinked ledgers for financial transactions compared with a single general ledger in the Integrated Management Information System. Umoja also has a far more detailed "coding" structure for financial information, which varies across the modules to meet specialized needs for IPSAS, voluntary contributions and cost accounting, among other things. Hitherto uncomplicated concepts, such as "expenditure", have different a meaning under financial accounting and budgetary accounting. While they bring advantages in managing processes and transactions, they increase the complexity of extracting information accurately.

32. In large organizations transitioning to complex enterprise resource planning systems, it takes time before users are able to properly exploit the richer data being generated. As users begin to understand data better, demand for sophisticated reports grows. The project has been addressing the growing demand for business intelligence by expanding technical capacity outside the project, continuing to train users and power users, and increasing the scope and sophistication of the reports and data available to users.

33. While the Office of Programme Planning, Budget and Accounts contributed significantly to advanced business intelligence training and the extraction of special analytical data, the Office of Information and Communications Technology mobilized in-house expertise to build more reports, including a portal for specialized reports for donors by blending Umoja data with programmatic data not yet in Umoja. The Department of Field Support is beginning to specialize in supply chain-related reporting. The United Nations Office at Geneva has developed specifications for dashboards for operational indicators in consultation with stakeholders globally, and the Office of Information and Communications Technology is developing managerial dashboards blending Umoja and non-Umoja data using the business data warehouse and more sophisticated technology for visualization.

34. The Umoja business intelligence portal has been accessed by 6,300 unique users cumulatively as of August 2017, with a steady increase in average users per day (see figure I).

Figure I
Business intelligence users: average unique users (weekdays)



35. In its recent audit, the Board of Auditors recommended that a comprehensive plan be prepared, with the objective of incorporating frequently used business intelligence reports into the standard corporate reports (see A/72/157).

36. In paragraph 10 of section XIV of its resolution 71/272 A, the General Assembly stressed the importance of effective and high-quality training for the successful implementation of Umoja and requested the Secretary-General to ensure

that senior managers adopt a comprehensive and sustained approach to training and capacity development in their work units.

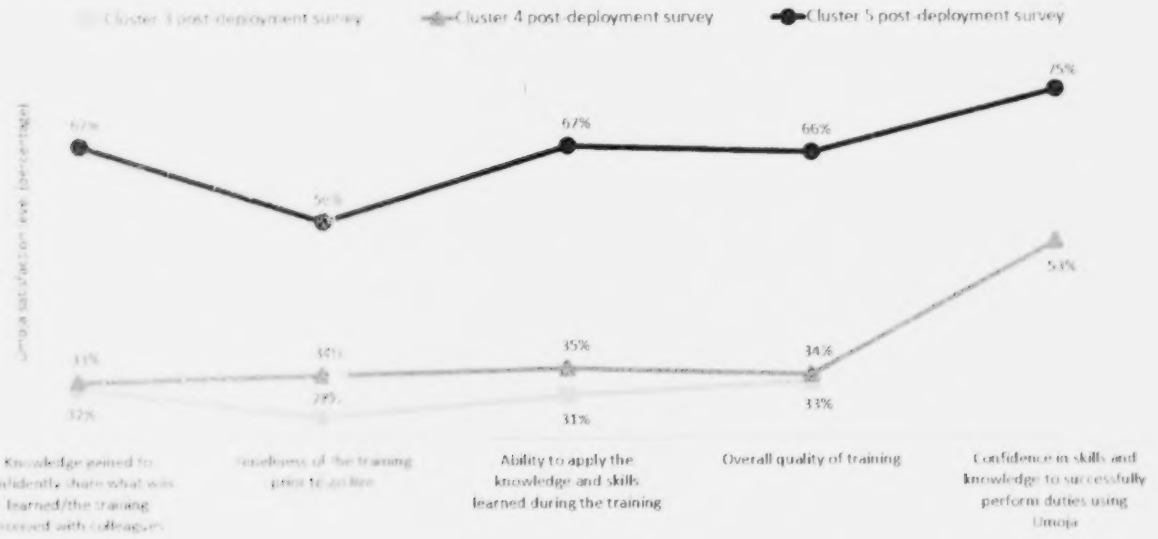
37. In its recent audit, the Board of Auditors took note of developments in training and, underscoring that the training of end users is essential for the successful implementation of any system, recommended that mandatory training be provided to all users before the deployment of any functionality, with feedback thereafter taken into account when further developing the training curriculum.

38. Inspira, the enterprise learning management system, has been enhanced to enable managers to track and address training gaps by linking training completion to Umoja enterprise roles; an enterprise-role-to-course mapping tool enables staff members, managers and security liaison officers to review the status of courses completed. Umoja user roles can be approved or rejected on the basis of course assessments recorded in Inspira. Local process experts and process experts certified by process owners, and a subset of those process experts identified as trainers, are tracked through Inspira; a Umoja global training calendar will soon also be available in Inspira to enable managers to deal with training gaps. Reporting tools therefore institutionalize the continuous monitoring of training information, including analysis of users' ability to use the system by tracking their actions when performing tasks, as explained in paragraphs 134-138 below.

39. A working group of training coordinators and process owner representatives has been established to identify opportunities for improving training content, distributing responsibilities for maintaining training data sets and updating training documents periodically. The Office of Human Resources Management is also pursuing opportunities to further modernize the delivery of training.

40. The project has also introduced user experience management as part of its software development in an effort to improve the usability of systems and reduce the need for training. Feedback through surveys, which is integral to the training strategy, has shown a continuing trend of improvement in the satisfaction level of users in successive deployments, as reflected in figure II.

Figure II
Umoja satisfaction levels



41. For cluster 5, 100 per cent of transactional users and 95 per cent of self-service users had completed training prior to deployment. More recently, for the decommissioning of Galileo, in September 2017, training was conducted in three cycles to ensure proper coverage; a training academy in Valencia has strengthened the capabilities to support Umoja field deployments. Overall statistics relating to the number of training days and participants, among other things, are presented in paragraph 128 below.

Production support

42. The Umoja support model is structured on three levels to best serve users and is designed to achieve self-sufficiency in each location and provide efficient processes and expertise for the resolution of incidents and the fulfilment of service requests. The first level of support operates locally through local process experts, well-trained service desk personnel, communities of practice and other resources, supporting the vast majority of incidents and service requests. The Umoja Support Centre, in Brindisi, and the Unite Service Desk, operating from Bangkok, Geneva, Nairobi and New York, provide the next level of support. These integrated service desks act as the single point of contact for incident or problem management and service requests and escalate such requests, as needed, to process and technical experts working in global teams who specialize in business processes or technical components in Umoja. Umoja-related incidents have been declining steadily (see figure III), with quick resolution at the local level and the integrated service desks; however, process owners are under pressure to sustain production support capacity while their process experts are also dealing with competing demands for Umoja Extension 2 projects.

Figure III

Monthly trend of incidents: incident service requests created per month (one rolling year to July 2017)

Communication and change management

43. Communication and change management efforts have continued in coordination with the business entities, covering a multitude of channels, such as release notes, newsletters, iSeek articles, the Umoja website and a Umoja companion smartphone application. Communication and change management activities are intensified during deployments in unison with the deploying entities through weekly conferences, town halls and go-live celebrations.

44. Owing to the diversity of stakeholders for Umoja Extension 2 projects, multiple business groups are also engaged on a regular basis through videoconferences and special workshops to inform, educate and sustain engagement.

C. Continuous improvements

Umoja post-implementation review task force

45. The Umoja post-implementation review task force provides a forum for business entities, process owners and the Umoja team to discuss post-deployment issues, identify solutions and agree on closure. The task force ended its operations for clusters 3 and 4 in April 2017, after nearly two years, while task force operations were not deemed necessary for cluster 5 owing to the absence of significant problems. The task force will be revived for future deployments if necessary.

46. As user adoption of the system grows, new requirements and possibilities emerge continuously. In order to examine these requirements and prioritize them for implementation, a governance structure for continuous improvements has been created, by which the Umoja solution can be improved and upgraded regularly. All requirements are captured in a tool that the project uses to track changes to Umoja; access is provided to representatives of the process owners and business focal points to facilitate the flow of information on pending changes. The outstanding requests for continuous improvements are shown in figure IV.

Figure IV
Open continuous improvement requests, by work stream and pillar

Abbreviations: CSS, central support services; ESS, employee self-service; FI, financial accounting; PA, personnel administration; SCPL, supply chain and plant maintenance.

IV. Preparation for future roll-outs

A. Umoja Extension 2

47. In paragraph 11 of section XIV of its resolution 71/272 A, the General Assembly requested the Secretary-General to implement the full scope of the project as set forth in the eighth progress report, without further delay and cost escalation, and to provide to the Assembly detailed information on the implementation of all of the remaining Umoja Extension 2 functions and processes at the main part of its seventy-second session.

48. The 133 Umoja Extension 2 processes were grouped logically in 2016 into separate work streams and projects in order to implement them concurrently, subject to their interdependencies. Those projects are described in detail in the paragraphs below.

Strategic planning, budget formulation and performance management

49. The strategic planning, budget formulation and performance management project is envisioned to support the full performance management life cycle, covering strategic planning, resource planning, programme execution and performance management.

50. Programme management will include the development of detailed plans by programme and consolidation within results-based management frameworks. The budget formulation part of the project covers a wide range of functionalities over the life cycle of a budget, including the modelling of resource requirements, sensitivity analysis on budget estimates, review of standard costs and recosting; it will facilitate better planning and review by linking with material master catalogues and recent contract prices, among other things, to improve the reliability of estimates. The solution will also integrate with supply chain planning and forecasting when that functionality is deployed. The performance management and reporting functionality will facilitate the linking of resource utilization to results.

51. The solution will enable a cross section of the workforce who are involved in planning and managing their respective entities' programmes, budgets and projects to ensure that measurable progress is being made towards their objectives and outcomes, by allowing them to flexibly define the frequency and level of detail for monitoring progress and tailor their interventions and adjustments. The solution will provide workflows for reviews and approvals, centralized access to documents, user notifications for easy administration and ad hoc reporting and donor-specific insights for more effective interaction with key stakeholders.

52. The solution will replace disparate current systems with an integrated end-to-end solution covering all funding sources: assessed budgets (regular budget and peacekeeping), voluntary contributions and cost recovery (from external sources as well as internal chargebacks). It will support the project management requirements for activities financed through voluntary contributions, with an integrated project management tool for planning and managing projects.

53. The solution will be used at different levels of the Organization, from heads of departments to individual budget planners and programme/project managers, all with varying levels of seniority, management experience and needs from a strategy and performance management system. However, the core user population can be divided into four groups: project planners, budget planners, strategy planners and programme managers.

54. The diversity of activities and financing structures that the solution needs to serve has made it imperative to ensure strong stakeholder engagement through a special steering group chaired by the Controller and by including dedicated staff from representative business areas in the project team.

55. After a series of workshops and multiple proofs of concept, the solution architecture was finalized in March 2017. Owing to the complexity of the solution, involving multiple SAP tools, a prototype was completed at the end of July 2017, comprising all the software elements and covering the full scope of strategy planning, performance monitoring, budget formulation and project management. Software development is in progress and planned in successive iterations, to be completed by May 2018, in time for integrated testing and deployment by September 2018, as proposed in the eighth progress report. Consequently, the solution will be used for preparing the programme budget proposals for the biennium 2020-2021, the results-based-budgeting logical frameworks and resource proposals for 2019/20 for peacekeeping, and results-based-budgeting logical frameworks and budgets for the 2019 budget period for extrabudgetary activities. Successful and timely deployment will entail the mobilization by business units of resources for extensive deployment activities, such as testing, training, data preparation and post-deployment support.

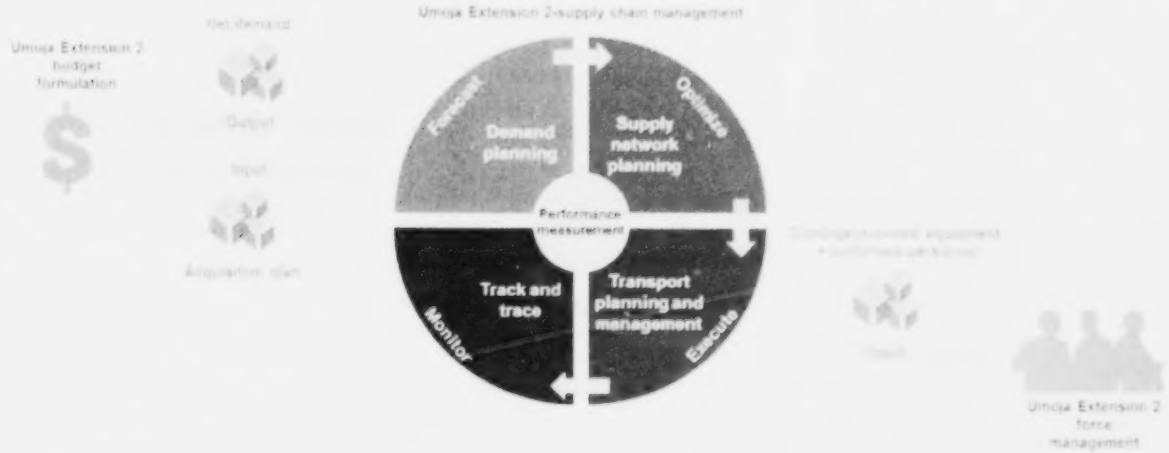
Supply chain management (phases 2 and 3)

56. The supply chain management vision of the Secretariat targets a well-managed and agile supply chain to support its entities with effectiveness and efficiency. The supply chain management process can generically be described as the planning and fulfilment of the Organization's demand for goods and services. The process starts with effective planning, including demand, acquisition, source, supply network and delivery planning. The objective is to find the most effective and efficient way to fulfil the demand in full and on time. This may be accomplished through techniques including tailored sourcing approaches, such as the consolidation of volume across missions, consideration of total landed cost, including transportation, and the adoption of more flexible, bundled delivery methods, while complying with procurement regulations and rules.

57. Supply chain management will enable and draw on a global view of the supply chain. Centrally accessible information will maximize use of existing resources, while increasing the responsiveness and agility of the supply chain. In addition to re-engineering processes and the deployment of new tools, a new supply chain management mindset, created by training and reprofiling staff members, will promote integrated activity and an end-to-end approach to providing support to field missions, while keeping in mind environmental best practices currently being defined in line with the expectations of Member States. The end result will be more rapid, effective, efficient and responsible support to the Organization's operations.

58. Supply chain management requires the transformation and enrichment of master data, mainly relating to material, inventory and transport, to support the future operating models. The solution has to cover four broad functional areas: demand planning, supply network planning, transport planning and management, and track-and-trace capability. As illustrated in figure V, the solution will also have linkages to Umoja Extension 2 budget formulation and force management functionalities.

Figure V
Umoja Extension 2 supply chain management: linkages to other Extension 2 projects



59. Through a series of cross-functional and cross-organizational supply chain management "envision" workshops, an initial high-level recommendation for a solution architecture was formulated in August 2017 to support the supply change management vision; the detailed road maps and implementation options are being assessed. The workshops confirmed that SAP technologies for planning optimization, transport management and event management (track and trace) have a lot of potential for supporting the supply chain management vision, including for improved demand planning and leveraging third-party business networks for tracking the movement of goods from an end-to-end perspective.

60. A pragmatic implementation approach will seek to optimize software development by the end of 2018, and will seek a phased implementation in 2018 and 2019 that can ensure appropriate business readiness in parallel, such as material master data management, including category management, standardization and governance, and significant change management, to secure desirable organizational behaviour for global supply chain management.

Fundraising and donor relationship management

61. The Secretariat's programmes depend to varying degrees on voluntary contributions; Umoja currently covers over 18,000 contribution agreements, and the annual volume in 2016 was 4,525 agreements. The volatility of voluntary funding can have an impact on programme delivery, necessitating careful planning and robust resource mobilization strategies. In the absence of a Secretariat-wide resource mobilization or donor relations strategy, several departments and offices have developed their own strategies and some tools to support their execution. Without a common enterprise solution, Organization-wide monitoring and the prioritization of resource mobilization efforts to broaden the donor base, increase multi-year funding agreements and simplify the negotiation of agreements with common donors have not been feasible.

62. The Umoja fundraising module will provide the functionality to register and maintain donor profiles and interact with donors throughout the life cycle, from the appeal for funds to the signing of the grant agreement. In formulating the appeal, the substantive content, including programme delivery and cost plans, will be developed as part of the strategic planning and performance management

functionality described above. The fundraising module will support programme managers in analysing their prospective donors, launching the appeals, including publishing them online, planning media events (by leveraging the conference and event management capabilities, described in paras. 74-77 below) and following through with interested donors until the conclusion of a grant agreement. When an agreement is signed, the current Umoja functionality relating to grants management will carry the proce s forward. Performance reporting to donors on the use of their contributions will be handled as part of the strategic planning and performance management functionality.

63. The fundraising module will provide a holistic view of the resource mobilization efforts and enhance the planning for implementation by providing better funding and cash flow forecasts and by monitoring the revenue pipeline.

64. After the business requirements gathered in 2010-2011 had been reconfirmed, the solution architecture and technology were finalized. Technical capacity to develop and deploy the solution has been augmented, with further adjustments to resources to be made if needed. A solution demonstration was organized in early June 2017. Stakeholder engagement is in progress to develop a deployment plan, with priority for the regional commissions and other entities that have a large voluntary contribution portfolio; outreach to other offices will also be intensified soon.

65. Owing to synergies with the strategic planning and performance management and the implementing partner projects, the deployment of this solution will most likely be synchronized for September 2018. To mitigate change management risks, initial deployment may be limited to some of the entities with a large portfolio of voluntary contributions.

Implementing partner management

66. The Secretariat uses implementing partners, such as United Nations system agencies, funds and programmes and non-governmental organizations, predominantly for executing projects and programmes. In 2015, the Secretariat channelled $1.3 billion to end beneficiaries and implementing partners. In 2016, over 4,350 implementing partner agreements were recorded in Umoja. Donors and auditors expect clear accountability to be in place to ensure that the funds transferred to implementing partners are being used to deliver the desired outcomes in a cost-effective manner and are protected against the risk of fraud or error.

67. The Umoja grant management functionality, deployed as part of Umoja Foundation, enables the Organization to manage parts of the life cycle of its interaction with implementing partners for the delivery of programmes and projects funded by voluntary contributions. For example, the Organization is able to capture its agreements with implementing partners, advance funds, record their performance and settle financial transactions with them. The foundation solution addresses IPSAS requirements but does not include a robust selection and assessment process for implementing partners or effective contract management to allow programme managers to follow through on the use of funds to ensure timely and effective implementation and prevent fraud. In addition, the current solution involves entering expenditure reports from implementing partners manually, which is time-consuming and risks manual entry errors.

68. The project will enhance interaction with the Secretariat's implementing partners by providing a portal and tools for such partners to request funds from the Secretariat, record the progress of their implementation and submit other performance details. The project will cover the life cycle of planning for the use of implementing partners, assessing their suitability and selecting them, and managing and evaluating their work. Through its implementation, the Secretariat will address

concerns raised by donors and auditors and develop the capacity for Organization-wide monitoring and analysis of implementing partners.

69. Following training for key stakeholders in February 2017 and a detailed fit-gap analysis workshop in June 2017 involving Umoja process and technical experts and business representatives from major stakeholders,[1] the solution architecture has been finalized and involves the use of two new SAP tools working together, known as "Grantor Management".

70. Preliminary indications are that the deployment can be broken down into two distinct functionalities in phases: (a) the application, assessment and selection of implementing partners; and (b) the subsequent full life cycle of managing the implementing partner agreement until closure, including all payments and reporting. The implementation of the latter phase will replace the current Umoja grants management functionality, involving pass-through grants, for dealing with implementing partners.

71. The grantor management module will provide a more user-friendly interface, improve internal controls, offer quicker disbursements to implementing partners, enable implementing partners to submit expenditures online and ensure appropriate workflows to trigger review and approval when departments or offices do not use template agreements or make exceptions to competitive selection processes.

72. The solution will integrate strategic planning and performance management with grants and implementing partner management, and will offer visibility and access to assessment and performance reports and data among Secretariat entities. This will also reduce the effort required to perform repetitive due diligence and assessment of potential implementing partners, and reduce lengthy negotiations on agreements with such partners. The system will also generate and manage alerts and notifications, which will strengthen the Organization's monitoring and reporting to donors, as well as managing financial accounting requirements for IPSAS compliance.

73. To optimize resources and exploit synergies, deployment of this solution is likely to be brought forward, from the end of 2018 to September 2018, to synchronize with the deployments of the strategic planning and performance management and the fundraising solutions. To mitigate risks relating to change management, the deployment will be phased by clusters of entities.

Conference and event management

74. The conference and event management project covers the life cycle of conferences and events, from planning to implementation and post-implementation evaluation, including calendar and non-calendar[2] conferences and meetings, off-site conferences and meetings and special events. These processes are currently not harmonized globally and involve multiple non-integrated solutions, and many core processes lack sufficient tools for efficient execution. Owing to historical constraints in information and communications technology (ICT), such as decentralized ICT units and challenging global connectivity, localized solutions were deployed to meet the needs of individual entities, often with little or no enterprise architecture and

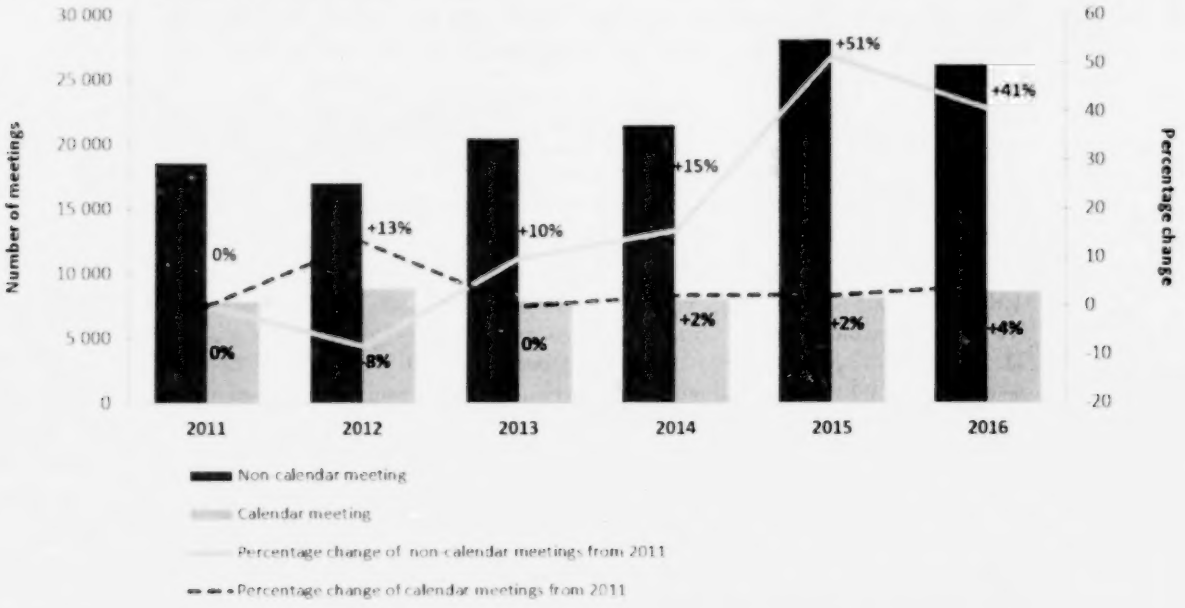
[1] Department of Economic and Social Affairs, Office for the Coordination of Humanitarian Affairs, United Nations Environment Programme, UN-Habitat, United Nations Office on Drugs and Crime and Office of Programme Planning, Budget and Accounts.

[2] "Calendar" meetings are official meetings and other meetings, including informal consultations, that are approved by the General Assembly on the recommendation of the Committee on Conferences and for which all necessary services are provided. "Non-calendar" meetings are those for which services are provided on an "if available" basis.

with substantial gaps in areas including participant management, cost estimates/quotations, billing and cost recovery and the reservation of resources.

75. In 2015 and 2016, approximately 35,000 meetings were held at the four duty stations (New York, Geneva, Vienna and Nairobi); non-calendar meetings have increased dramatically, outnumbering calendar meetings and generating a significant additional workload (see figure VI). A global enterprise approach with standardized processes and tools is needed to improve client satisfaction, enhance efficiency and provide better business continuity by leveraging resources globally.

Figure VI
Calendar and non-calendar meetings



Source: Department for General Assembly and Conference Management, conference management report for 2016.

76. The project has numerous stakeholders, such as conference services, facilities management, security, protocol, ICT, procurement, finance, accounts and treasury. In consultation with the process owner, the stakeholders are being briefed to develop an engagement plan and a solution architecture that leverages existing investments and reduces change management challenges, including resource requirements. The harmonization of future processes, process re-engineering, the potential integration of existing systems and migration to enterprise data centres will require robust planning and change management.

77. A plan has been developed for integrating iNeed, an enterprise system for service management, with Umoja for cost recovery and billing, among other things, to manage a part of the life cycle of conferences and events by September 2018. The project is also exploring a pilot for accreditation and participant management, building on a successful earlier pilot conducted by the United Nations Office at Geneva for the United Nations Conference on Trade and Development, with the potential for this solution to be rolled out by the end of 2018. In the meantime, the Department for General Assembly and Conference Management is pursuing the one-stop-shop solution to address requests by Member States to simplify event coordination processes by providing a single entry point for requesting meeting room services and then expanding the service catalogue to cover requests not

relating to meetings, such as those relating to special events and exhibits, by the end of 2017.

Reimbursements and payments to troop- and police-contributing countries

78. The current process for reimbursements to troop- and police-contributing countries for contingent-owned equipment and personnel payments (troops and police) involves many non-integrated systems, resulting in time-consuming data re-entry, risks of errors and consistent pressure to meet payment deadlines. Although payments are being processed through Umoja, several upstream processes are processed using the electronic contingent-owned equipment application (eCOE) in missions, the government claims management system in the Department of Field Support and the troops database system in the Department of Management.

79. This project will provide an end-to-end solution for reimbursements payments to troop- and police-contributing countries by eliminating data re-entry, introducing electronic approval workflows and providing consistent data for operational, strategic, financial and budgetary reporting.

80. Around 35 stakeholder entities have been identified. Apart from Member States, internal stakeholder entities involve those that: (a) determine the force requirements; (b) determine the deployment schedule for equipment and personnel; (c) draft the memorandums of understanding; (d) perform the arrival inspection and routine verification of equipment; (e) report on troop strength; (f) process claims relating to contingent-owned equipment; (g) process personnel payments; and (h) disburse payments.

81. Following multiple workshops to determine the scope, document "pain points" and identify gaps in functionality, over 180 functional requirements were gathered, including Statement of Unit Requirements, memorandums of understanding, verification reports and troop strength reports. The solution architecture and technology elements have been finalized. Business-led functional groups will soon be established to facilitate process re-engineering before designing and building the solution; the link to force planning and generation also has to be factored in.

82. The solution can be deployed in modules by the end of 2018, with priority given to the replacement of the government claims management system, and will require dedicated resources in business units for deployments to field missions.

Force management

83. Force management includes the development of a plan to support the Secretary-General's proposals either for a new mission or for adapting an existing mission using system-generated templates and/or by adjusting the number of positions and related logistics infrastructure components.

84. The Office of Military Affairs and the Police Division in the Department of Peacekeeping Operations have nominated focal points to work on documenting business processes and developing functional requirements to enable the determination of a technical solution. However, the project's momentum is being affected by the higher priority given to the project relating to reimbursements and payments to troop- and police-contributing countries, which has greater urgency. The planned deployment by the end of 2018 will depend on how the business requirements match the functionality of the defence force planning module.

B. SAP upgrade

85. The Umoja software has to be upgraded by 2020 to receive continued vendor support. The software upgrade is included in the annual maintenance cost; however, its testing and deployment will increase the pressure on existing skilled resources in the business and the project, including for updating end-user documentation and conducting change management activities. Nevertheless, preliminary evaluation of the upgrade has already commenced and testing will begin shortly, with a view to completing the upgrade by September 2018, as the upgrade is needed for some of the Umoja Extension 2 projects. The project is therefore investing in test automation to reduce the demand for scarce testing skills and resources, both now and in the future.

86. The upgrade will improve some key functionalities, as well as employee self-service. The user experience will improve as Umoja becomes increasingly available on mobile devices and computers, with a more intuitive user interface.

V. Updated business case

87. In paragraph 15 of section XIV of its resolution 71/272 A, the General Assembly noted that the Umoja project represented one of the largest and highest-cost business transformation initiatives undertaken by the Organization, and in that regard requested the Secretary-General to submit to the Assembly at the main part of its seventy-second session an updated business case for the Umoja project, including an analysis of the direct and indirect costs and benefits, taking into account all the relevant recommendations of the Board of Auditors and the Advisory Committee on Administrative and Budgetary Questions.

88. The General Assembly also noted, in paragraph 13 of section XIV of the resolution, that insufficient progress had been made in the development of a benefit realization plan and requested the Secretary-General to accelerate the development of such a plan, taking fully into account the relevant recommendations of the Board of Auditors, and to report thereon in the next progress report. In paragraph 14 of the resolution, the Assembly requested the Secretary-General, in developing realistic benefit realization plans for implementing entities, to use a common methodology and provide details on both qualitative and quantitative benefits, and to report thereon to the Assembly at the main part of its seventy-second session.

A. Qualitative benefits

89. In May 2006, the Secretary-General made the case for an enterprise resource planning system to facilitate the effective use of the Organization's resources, and stated that the Secretariat's current and projected business needs were outpacing the technical capabilities and business functionality of its current patchwork of information technology systems, thereby necessitating a system to address functionality gaps and better align systems with business needs (see A/60/846/Add.1, paras. 39 and 42).

90. A push for improved accountability and transparency had created specific functional and technical needs (for example, results-based budgeting and management, enhanced internal controls, mechanisms to manage staff mobility exercises and improved reporting) and led to the proposed adoption of IPSAS. On the other hand, the silos of information caused by fragmented data from disparate information systems had diminished transparency and control of administrative processes, weakened management oversight capability and exposed the Organization

to unacceptable risks through weak financial and procurement controls, a lack of accurate global reporting and the diminished ability to identify anomalies, inconsistencies or errors.

91. Results of industry surveys suggested that an enterprise resource planning system could enable the Organization to operate effectively through the enhanced integration of processes and the sharing of information, bringing together people and departments that had previously been disconnected by process gaps and fragmented workflows. With an Organization-wide process orientation and standardization, a successful enterprise resource planning project could enhance decision-making capability and help the Organization to rethink and refine its entire business strategy.

92. In July 2006, the General Assembly endorsed the Secretary-General's proposal to implement an enterprise resource planning system across the Secretariat to enhance the effective and transparent use of the resources of the Organization, enhance the effectiveness of the work of the Organization and address current deficiencies, including all information technology needs arising from the adoption of IPSAS (resolution 60/283).

93. In April 2008, elaborating on the business case for the enterprise resource planning system, the Secretary-General pointed out that the lack of integrated and complete data on resources, both at Headquarters and in the field, was a serious impediment to effective management, planning and decision-making. The Secretary-General also indicated that the most compelling imperative for a new system was the changing nature of the Organization itself, given that peacekeeping operations had proliferated at an unprecedented pace and had grown in both size and complexity, often in regions with poor basic infrastructure, leading to a patchwork of fragmented, support-intensive, home-grown systems that were not sustainable and efficient for the long term (see A/62/510/Rev.1).

94. The Secretary-General stated that the main value of an enterprise resource planning system would be the opportunity to streamline and improve the operations of an entire organization through process re-engineering, the sharing of common data and the implementation of best practices and standards. The main objectives were to: (a) provide a global system that captured accurate and timely core resource data from all operations, including those in the field; (b) support decision-making by linking programmes and operations with the resources allocated and utilized; (c) reduce the average time required for administrative processes by streamlining and integrating business processes and using greater automation; (d) increase organizational efficiency by reducing manual processes and redirecting resources to value-added work; (e) support the implementation of IPSAS; (f) enable easy access to reports for Member States, staff and the public, as appropriate; and (g) enhance accountability, transparency and internal controls.

95. The new enterprise resource planning system would be a catalyst for business transformation by improving financial, administrative and management operations, and would have the potential to improve the efficiency and, most significantly, the overall effectiveness of the Organization.

96. In May 2009, acting on the above proposal of the Secretary-General, the General Assembly stressed that the implementation of the system should aim at consolidating the management of all financial, human and physical resources under a single integrated information system for the entire Organization, including for peacekeeping and field missions, and requested the Secretary-General to submit an updated business case, including details on tangible and measurable efficiency and productivity gains to be achieved, as well as benchmarks for measuring progress and the anticipated return on investment (resolution 63/262).

97. In October 2009, in his first annual progress report on Umoja (A/64/380), the Secretary-General emphasized that the objective of Umoja was to renew the way the United Nations manages human, financial and material resources, allowing staff to work together in a truly coordinated manner, giving managers the visibility to plan appropriately, providing stakeholders the confidence to support and endorse programmes and enabling the Organization to deliver better on its mandates. Umoja would unite the many support and administrative entities throughout the Secretariat through common processes and practices and shared data, with all elements based on proven leading practices.

98. The Secretary-General emphasized that it was simply too difficult and therefore too risky to manage effectively an organization of the size, geographic distribution and complexity of the Secretariat and its field operations with anything less than a fully fledged enterprise resource planning solution, based on substantial process re-engineering and cultural change. Thus, Umoja is not so much a benefit as a necessity, as evidenced by the experiences across the United Nations system and beyond. The primary "benefit" of Umoja is in fact its raison d'être: to reinforce the continued operability, accountability and credibility of the United Nations, ensuring operability by improving business continuity, improving accountability through greater transparency, and safeguarding credibility by mitigating the risks of erroneous information being provided. Umoja would be more than a project: it would be a movement of continuous reform and improvement, affecting the Organization from back-office administration to direct support of field operations.

99. The journey of Umoja so far confirms that it is one of the most important transformative initiatives for the Secretariat. For the first time, the Secretariat has a single, global solution that can enable the efficient and transparent management of the Organization's resources. Umoja has replaced hundreds of legacy systems, streamlined and integrated numerous fragmented and non-standard processes, automated resource-intensive manual processes, enabled self-service for staff and managers and provided real-time visibility to global data.

100. Umoja covers a rich and broad range of functionalities in areas including financial accounting, cost and management accounting, cash and treasury management, workforce management, real estate and facilities management, supply chain management, logistics execution, travel management and procurement. Its functionality will soon be enriched by conference and event management, demand planning, supply network planning, transportation management, resource mobilization, reimbursements to troop- and police-contributing countries and, most importantly, strategic planning, budget formulation and performance management.

101. The introduction of end-to-end process management has been one of the most significant changes triggered by Umoja, requiring the Organization to adopt a horizontal, cross-functional view of its administrative tasks in order to fully achieve its objectives of improving productivity, lowering costs, reducing cycle times, increasing transparency and enhancing the quality of services.

102. By standardizing and harmonizing business processes within a single, global solution, Umoja has paved the way for enhanced and faster client services, location-agnostic transaction support, better business continuity and more rapid deployment of support wherever needed. Globalizing operations in a single system has also created additional opportunities for business units to access intra-Secretariat services more quickly and more cheaply. The ability to provide and support Umoja enterprise roles across geographical and organizational boundaries paves the way for more efficient global service delivery models.

103. Umoja improves accountability through greater transparency. The real-time visibility of global and granular information is enabling greater delegation of

authority and facilitating a culture of empowerment throughout the Organization for decentralized decision-making. Harmonized processes and global accessibility are creating pressures to change policies and procedures to leverage efficiencies for more fit-for-purpose business models that are better suited to the diverse, field-oriented Secretariat entities to increase responsiveness for the delivery of mandates.

104. The internal control framework has to be redesigned significantly owing to the globalization of operations in an integrated system. The elimination of the handover of data across multiple systems, the richer array of functionality covered by Umoja, the tighter integration of more functions, real-time access to transactions in progress and opportunities to use automated detection and prevention tools, such as the Umoja module for governance, risk and control, point to the need and urgency to replace most of the current controls with a more intelligent and less intrusive control framework that encourages greater responsiveness to programme delivery.

105. With reference to the original business case for Umoja described in the present section, some of the key improvements that Umoja has already produced are summarized by functional pillar in table 2, although the benefits are frequently linked to the process flow that may go across functional pillars.

Table 2
Umoja improvements, by functional pillar

Human resources

- Standardization and automation of human resources processes
- Real-time visibility of global personnel data
- Simplification of staff movements across duty stations
- Employee and manager self-service
- Faster processing of entitlements

Finance

- IPSAS-compliant transactions and accounting
- Harmonization of payroll processing
- Real-time visibility of global resource mobilization and utilization
- Improved cost measurement, allocation and recovery
- Improved cash management and banking arrangements
- Accurate and automatic expenditure classification based on materials and services
- More efficient management of accounts payable and receivable, including global netting of payables and receivables
- Electronic interfaces with vendors for ordering goods and services and settling invoices
- Elimination of inter-office vouchers
- Electronic interface with United Nations Development Programme

Central support services

- Full visibility of the global real estate portfolio, including lease contracts
- Harmonization of property management and accounting processes
- Self-service for travel, reduction in workflow steps and better monitoring of compliance
- Global, detailed travel information
- Global procurement operating model, single supplier database, holistic visibility of business relationships and access to all contracts globally
- Prompt payment discounts
- Increased delegation owing to real-time access to transactions in progress

Supply chain and logistics

- Global inventory management through comprehensive view of materials and storage locations
- IPSAS-compliant goods receipt and inventory management

Technology and data management

- Retirement of hundreds of legacy systems
- Targeted information technology support owing to simplification of systems landscape
- Enhanced data aggregation and data hosting capacity in enterprise data centres

106. Umoja deployment has already addressed many of the problems that were expected to be addressed through an enterprise resource management solution. Umoja Extension 2 projects will address additional key pain points of the pre-Umoja system landscape as they expand Umoja capabilities across a broad range of processes. Umoja strategic planning, budget formulation and performance management will strengthen the link between programme delivery and utilization of resources. Resource mobilization will address a key enterprise risk, while management of implementing partners will strengthen controls around a reputational risk that the Board of Auditors highlights repeatedly. Supply chain management will strengthen demand and supply planning for goods and bring greater efficiency and reliability for operational impact.

107. As noted in paragraph 5 above, the Board of Auditors has emphasized that Umoja remains central to the successful reform and modernization of the administration of the United Nations and has the potential to generate major benefits for the Organization and for Member States.

B. Quantitative benefits

108. In his first annual progress report (A/64/380), the Secretary-General laid out, in detail, a range estimate of the quantitative benefits that Umoja could potentially deliver under five components — human resources, finance, central support services, supply chain/procurement/logistics, and technology and data management — as a result of refining business processes, improving the quality and availability of information, reducing manual effort and building staff skills. The Secretary-General

outlined the top-down methodology that had been used to estimate the benefits that could be realized, provided several key success factors were met and maintained; the estimates were based on assumptions to be validated over time and using incomplete baseline data, owing to the limitations of existing information systems and the significant differences in the "as is" operating models across Secretariat entities.

109. In September 2010, in the second progress report (A/65/359), the qualitative and quantitative value opportunities were validated and revised slightly on the basis of additional information obtained during the software design process.

110. In September 2012, in the fourth progress report (A/67/360), on the basis of the revised Umoja implementation schedule, the potential benefits projections were adjusted for a delay in timing, suggesting a range of $80 million to $150 million in 2017 for Foundation and Extension 1 and an additional $60 million to $80 million for Extension 2, reaching a combined benefit between $140 million and $220 million in 2019.

111. In September 2016, in the eighth progress report (A/71/390), on the basis of experiences gained after the deployment of Umoja Foundation and Extension 1 and as recommended by the Board of Auditors in its reports (see A/70/158 and A/71/180), the quantitative benefits targets were revised on the basis of a bottom-up approach undertaken by the process owners for their respective areas.

112. The modified approach linked qualitative improvements to possible quantitative benefits. It tried to leverage measurements and the comparability of pre-Umoja and post-Umoja implementation transaction volumes, or other drivers wherever available, to enrich the assessment of benefits. The process owners also reviewed all previously identified areas and explored new areas of potential impact. In assessing the benefits, they validated quantitative benefits already achieved and took note of opportunities for re-engineering processes wherever possible; they also factored in processes eliminated by Umoja as well as the redistribution of work among locations and organizational entities.

113. The quantification was based on different criteria, as appropriate, for each process area, then was distributed among the business entities in proportion to their share of the total for that process area.

114. In its sixth annual progress report (see A/72/157), the Board of Auditors acknowledged that the new bottom-up approach described above was an improvement on the previous top-down approach. The Board also recognized that, for many processes, a comparison of pre-Umoja and post-Umoja data is not possible, as processes in the previous systems were largely outside the system, with the system data limited to the final actions. The Board also suggested additional improvements leveraging transaction time measurements to establish new baselines for measuring efficiencies in the future; this is addressed under the continuous improvements monitoring programme, described in paragraphs 134-138 below.

115. Furthermore, according to a research note published in June 2015,[3] the bottom-up work will rarely tie exactly to the benefits articulated in the initial top-down assessment as part of the enterprise resource planning strategy; it is recommended that a "middle out" approach be adopted by comparing the performance of different business units and reconciling the results of the two approaches from time to time to close the gap. Consequently, benefits estimated in the Organization-wide process

[3] Carol Hardcastle and Denise Ganly, "ERP benefits realization: chasing the 'pot of gold'", paper prepared for Gartner, 25 June 2015.

review by the process owners had been communicated to departments, offices and missions.

116. Departments, offices and missions have translated into budgetary impact the estimated efficiencies described above as they apply to their individual day-to-day operations and programmes. Inherent in this effort is the reorganization of work and processes required in each entity to ensure the effective implementation of mandates. In that respect, the Umoja-related efficiencies envisaged, which had been estimated globally on a full-time equivalent basis as applied to the whole spectrum of the Organization's operations (that is, time or process efficiencies in various functional areas), were reflected as post or non-post reductions in the budget submissions of departments, offices and missions.

117. As requested by the General Assembly, the benefits presented in the eighth progress report (see A/71/390, table 2), have been updated in table 3 below.

Table 3
Umoja quantitative benefits
(Millions of United States dollars)

Regular budget		Peacekeeping	
2014-2015	2.3	2013-2016[a]	21.9
2016-2017	47.7	2016/17	18.5
		2017/18	4.7[b]
2018-2019	27.8	2018/19	33.0
		2019/20	9.6
2020-2021	7.2	2020/21	26.4
Total	**85.0**	**Total**	**114.1**
Annualized benefit	42.5		114.1
Maximum annualized, recurring benefits to be realized by 2021			**156.6**
Cumulative benefits to be realized by 2021[c]			**671.2**

[a] Includes the 2013/14, 2014/15 and 2015/16 periods and reflects efficiency gains for peacekeeping missions of $20.2 million enabled by Umoja as a platform to streamline processes.

[b] A total of $4.7 million in benefits was identified at the time of issuance of the proposed budget for 2017/18 of the individual peacekeeping components. An updated figure will be provided in the next progress report.

[c] On the basis of the budget formulation process, in which departments and offices translated the estimated efficiencies to budgetary impact, a total of $64.3 million in reductions was identified in the proposed programme budget for the biennium 2018-2019, including other efficiencies that, while enabled by Umoja, are not entirely attributable to Umoja.

[d] Recurring benefits from 2013 have been aggregated biennially, for the regular budget, and annually, for peacekeeping, to compute cumulative benefits.

118. Forward-looking projections based on the amounts presented in the eighth progress report will continue to be reviewed on the basis of the experience gained with the upcoming phases of implementation.

119. The exact breakdown of amounts for future periods by departments, offices and missions will continue to be presented in the individual budget submissions for the regular budget and for peacekeeping operations, on the basis of paragraph 116 above, for approval by the General Assembly.

C. Direct and indirect costs and total cost of ownership

120. In paragraph 18 of section XIV of its resolution 71/272 A, the General Assembly recalled paragraph 44 of the report of the Advisory Committee on Administrative and Budgetary Questions on the eighth progress report on the enterprise resource planning project (A/71/628) and regretted that little progress had been made to respond to the repeated requests of the Assembly to maintain a detailed accounting of the indirect costs absorbed by departments or to conduct an analysis of the total cost of ownership of the Umoja project, which is a key input for informed decision-making on investments.

121. In paragraph 83 of its fifth annual progress report (see A/71/180), the Board of Auditors recognized that the Umoja team had continued to improve the monitoring of costs and had developed tools to track and report spending, but observed that the tools utilized reflected the consumption of resources rather than the achievement of project deliverables and that there were no clear links between cost and progress. In paragraph 46 of its report (A/71/628), the Advisory Committee on Administrative and Budgetary Questions, while noting the limitations of the tools and methodology used, considered that, based on the available information, further efforts should be made to conduct a more refined analysis of project expenditures and project deliverables on an annual basis since the inception of the project in 2008, with a view to linking the budget to the project milestones.

Direct costs

122. The direct costs borne through the project's budget from 2008 to 2016 were analysed with reference to the project's activities, broken down by phase using reasonable assumptions to attribute staff costs to the phases, and presented to the Board of Auditors in early 2017. Since then, the project has strengthened expenditure tracking using work breakdown structures in Umoja. Figure VII shows the project's expenditures to date, by phase.

ure VII
oja project expenditures by project phase, 2008-2017
ted States dollars)

Note: Status as at 25 August 2017.

Indirect costs

123. Indirect costs relate to costs incurred by departments to facilitate operational readiness, including activities such as data cleansing and enrichment, user testing and deployment coordination. The measurement of indirect costs has been challenging when staff are working less than full-time on Umoja-related activities. However, the project made a concerted effort to estimate the costs by analysing and collating information about each deployment. The costs presented in table 4 have been derived on the basis of estimates of time worked by staff in the roles for each deployment, such as deployment coordinator, site coordinator, communications focal point, data functional coordinator, data validator and local process expert.

124. Beginning in 2017, for Umoja Extension 2 projects, an indirect cost collection process has been instituted upon the formation of each project team. The indirect costs incurred in business units are tracked and reviewed periodically by the Umoja project, including during the software development phase.

Table 4
Indirect costs for Umoja deployments

Deployment	*Deployed in*	*Number of staff*	*Person-months*	*Cost (United States dollars)*
UNIFIL/UNSCOL pilot	July 2013	29	104	1 595 833
Cluster 1	November 2013	346	1 232	15 524 908
Cluster 2	March 2014	265	930	11 411 692
MINUSTAH pilot	July 2014	21	76	1 198 433
Real estate (Headquarters, UNON and ECA)	July 2014	32	14	218 444
Real estate (entire Secretariat)	November 2014	16	4	73 622
Cluster 3	July 2015	306	744	10 737 967
Cluster 4	November 2015	887	1 929	23 910 358
Service delivery (peacekeeping/special political missions)	July 2016	122	45	738 936
Financial statements (vol. II)	August 2016	11	15	291 497
Cluster 5	November 2016	572	1 588	23 859 450
Financial statements for eight non-peacekeeping operations	February 2017	56	56	762 811
Total, Foundation/Umoja Extension 1				**90 323 951**
Supply chain management, phase 1 (Galileo decommissioning project)	September 2017	139	528	7 001 150
Strategic planning and performance management		152	152	2 567 228
Supply chain management, phase 2		5	8	117 939
Implementing partners		14	2	34 034
Payments to troop- and police-contributing countries		21	30	411 816
Real estate		9	1	15 611
Total, Umoja Extension 2				**10 147 778**

Note: Estimated on the basis of standard costs applied to staff on the basis of their roles in the deployment, whereby each role is assigned an indicative grade/level and representative full-time-equivalent person-months for the amount of time spent in the deployment.

Abbreviations: ECA, Economic Commission for Africa; MINUSTAH, United Nations Stabilization Mission in Haiti; UNIFIL, United Nations Interim Force in Lebanon; UNON, United Nations Office at Nairobi; UNSCOL, Office of the United Nations Special Coordinator for Lebanon.

Total cost of ownership

125. Total cost of ownership analysis gained traction in the 1980s, when information technology industry analysts began publishing studies showing very large differences between the prices of information technology systems and their costs. While what could be included in a total cost of ownership analysis is still debated, there is consensus that such an analysis is conducted to support purchasing decisions and takes centre stage at the initial procurement juncture. Furthermore, the total cost of ownership model for each organization is largely dependent on its particular operations, the maturity of information and informational tools and the rationale for such an analysis in the first place. Industry consensus is also that total cost of ownership is not a complete cost-benefit analysis, by "seeing" only costs while ignoring benefits. It therefore forms a part of the larger business case analysis.

126. In its fifth progress report (see A/71/180), the Board of Auditors observed that robust estimates of future support and maintenance costs for Umoja had not yet been produced, and, since the total cost of ownership of Umoja over 15 years, including capital and maintenance costs, was unknown, the Board recommended that the Administration calculate the total cost of ownership of Umoja over its proposed operating life to identify all the lifetime costs, including purchase and development costs, as well as installing, deploying, operating, upgrading and maintaining the system over time.

127. In its sixth progress report (see A/72/157), the Board defined the total cost of ownership as the sum of the direct and indirect costs, wherein indirect costs are composed of the people time (hours) of departments and entities for Umoja deployment and support, including legacy data cleansing and enrichment and training. Acknowledging the challenge in measuring indirect costs, the Board recommended that the Administration consider implementing time sheets for tasks relating to the implementation of Umoja to fully capture the indirect costs and take steps to account for costs incurred in training in terms of staff time and travel in the calculation of the total cost of ownership.

128. In order to include training costs in the total cost of ownership of Umoja, the time spent by users on Umoja training and the related costs were estimated (see table 5). The training cost measurement has been automated; however, the isolation and tracking of the travel costs of Umoja trainees has not been automated as it would require customization to link travel for training to the logging of Umoja course attendance in Inspira.

Table 5
Umoja user training: cost of time spent

Course type	*Participants*	*Duration (days)*	*Cost (United States dollars)*
Computer-based training	176 683	56 512	22 261 298
Instructor-led training	56 192	116 395	41 485 587
Other courses	952	1 451	585 059
Total	**233 827**	**174 358**	**64 331 944**

Note: Estimate is based on standard costs for the category of the staff, applied to the time the staff spent on training; travel costs and costs of trainers are not included owing to the lack of available information.

129. With the Board's definition as a guide, the total cost of ownership of Umoja is estimated in table 6, assuming a useful life of 15 years, although the system is likely to be in use for longer.

Table 6
Umoja total cost of ownership (estimated to 2030)

Cost category	*Period*	*Amount (United States dollars)*
Direct costs (Umoja)	2008-2019	543 741 600
Indirect costs	2013-2017	100 471 729
	2018-2019[a]	32 000 000
Training costs (time of users)	2013-2017	64 331 944
	2018-2019[a]	15 000 000
Maintenance costs for 15 years	2016-2019	118 600 000
	2020-2030[b]	528 000 000
Total	**2008-2030**	**1 402 145 273**

[a] Estimate subject to large variation owing to the lack of reliable precedents.

[b] Based on an annual maintenance of $48 million, as projected in the report of the Secretary-General on the status of implementation of the information and communications technology strategy for the United Nations (A/71/400).

130. As mentioned in paragraph 125 above, total cost of ownership is not meant to be a cost-benefit analysis, as it sees only the costs over the lifetime of the system. For a comparable period, besides the significant qualitative benefits, the cumulative quantitative benefits would be $2,080.6 million from 2013 to 2030.[4]

131. As part of an effort to ensure that the anticipated benefits of Umoja can be realized, an assurance project was carried out by external consultants between May and July 2015 to identify and analyse areas of risk that may affect the immediate and long-term value of Umoja to the Organization and preclude the realization of substantial organizational benefits. Risks were identified and recommendations developed across major areas, aimed at strengthening change-management capabilities to accelerate user adoption and optimize business processes. Implementation was recommended at two levels: (a) broad categories of risks that could largely be mitigated at the project level, albeit with some interdependencies; and (b) strategic initiatives to address longer-term and broad-reaching risks and transition the Organization culturally to a new way of working that would require implementation at the organizational level.

132. Since the assurance analysis was largely conducted prior to the implementation of cluster 3, the majority of risks identified within the purview of the project have since been mitigated, as evidenced by the stabilization of clusters 3 and 4 and the successful roll-out of cluster 5. The mitigated risks relate to a steady-state support model, user adoption challenges, an updated inventory of policies and procedures, process standardization and the mainstreaming of plans, among other things. The Umoja post-implementation review task force has been the vehicle to drive the mitigation of risks, capture lessons learned and address technical and process-related challenges that can be resolved within the existing parameters of Umoja and other enterprise solutions.

[4] As calculated from table 3: $671.2 million until 2021 and $156.6 million annually from 2022 to 2030.

133. For the strategic initiatives, an assurance road map is currently being developed to chart the overarching strategic journey to transition the Organization to a new, agile way of working, through business transformation that leverages the opportunities created by a functionally rich and globally deployed enterprise resource planning solution. Unlike earlier Umoja change management initiatives that were focused on specific deployments and functionality, the focus will be to create a long-term capacity for change that can recognize and foster opportunities for transformational impact.

D. Programme for monitoring continuous improvements

134. A programme for monitoring continuous improvements (CIMP) has been created to ensure the sustained realization of Umoja benefits. Umoja is based on 321 engineered processes to ensure that the critical administrative functions of the Organization can be executed to meet operational objectives. Umoja transactional users globally are carrying out not only specific functional roles, but also responsibilities within a workflow or sequence of tasks. The timely and accurate completion of a workflow is crucial for the successful delivery of services for the Organization to fulfil its mandate. The programme represents the Organization's commitment to manage the performance of administrative functions to ensure that they serve the Organization as intended.

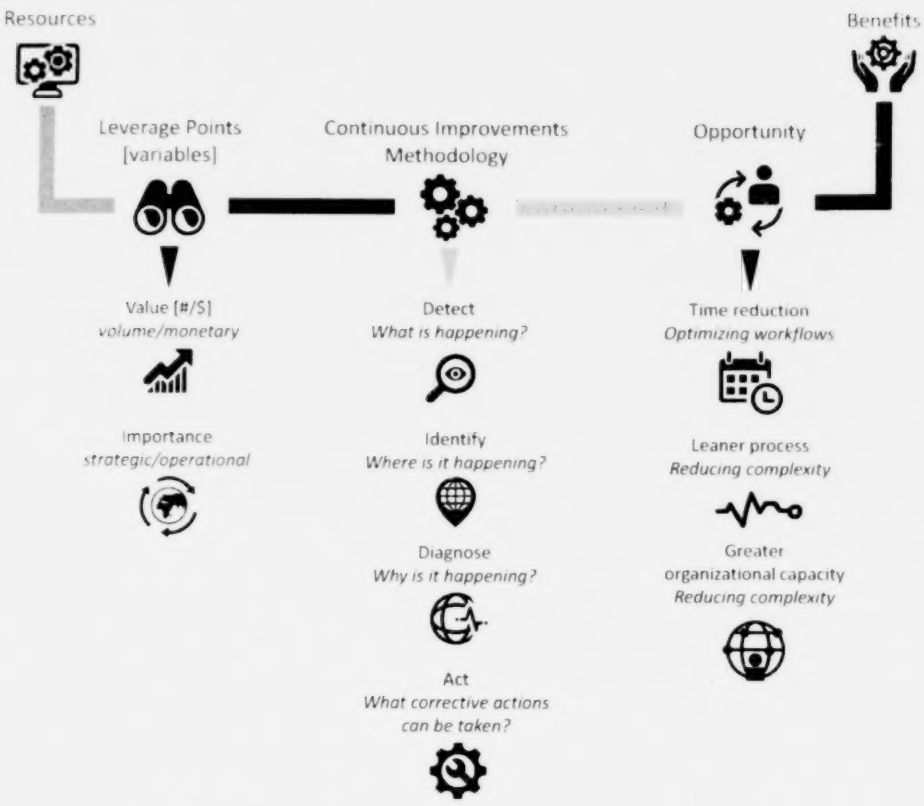
135. The objective of the programme is to implement a capability and process for monitoring any selected Umoja process area to provide situational awareness on the user activities and workflow transactions for a given period. The monitoring approach is aimed at providing continuous insight on key operational questions, such as the number of activities executed, the number of users involved, the number of tasks needed to complete an activity, the duration and volume of tasks for the activity and performance trends for the activity. The capability to answer these questions is based on the intense data analysis described in the paragraph below.

136. The measure of how many users it takes to complete a workflow gives an insight into potential workload and task routing. The measure of tasks required to complete a workflow provides awareness of workflow complexity or the tendency for tasks to be rerouted owing to errors or complex process design. Similarly, the measurement of how long it takes to complete workflows provides root cause analysis for possible problems ranging from training to process design. Each of these measures is needed to provide a robust monitoring capability to support the detailed analysis for problem resolution and decision support for remedial actions.

137. The foundation of the continuous improvement methodology is a technical monitoring capability, based on a four-step process depicted in figure VIII, comprising detection, identification, diagnosis and action. Technical tools to implement this methodology are already in place and in use, but the criteria for processes to be monitored have to be finalized and capacity has to be created or identified to leverage opportunities for improvements.

138. The Umoja programme for monitoring continuous improvements is comprehensive and builds on the project's growing capability to track performance, use a rigorous methodology to analyse problems and ensure a commitment to take action to realize the full benefits of Umoja. It responds to the directive by the General Assembly to develop benefits realization plans and the recommendation of the Board of Auditors to leverage process time measurements captured by Umoja.

Figure VIII
Continuous improvements methodology



VI. Mainstreaming, reorganization and reprofiling of resources

139. In paragraph 9 of section XIV of its resolution 71/272 A, the General Assembly reiterated its request to the Secretary-General to strengthen in-house capacity and expertise on the enterprise resource planning system and to develop, as a matter of priority, a detailed action plan to ensure the transfer of knowledge from consultants to programme and project staff, ensuring that knowledge acquired is maintained within the Organization, and reducing dependency on and resource requirements for contractual services, which represent a large proportion of project costs, and to provide detailed information thereon in the context of his next report.

140. By mid-2016, as clusters 3 and 4 stabilized, the project accelerated knowledge transfer from contractual resources to staff members, reduced contractual resources and intensified knowledge acquisition and transfer within the project.

141. Concurrent Umoja Extension 2 work streams, involving new functional areas and technologies, and the need for a gradual downsizing of the project resources have necessitated a reorganization of the staff and contractual resources around fewer integrated teams to achieve greater consolidation of, and integration across, SAP business and technical functions, as explained in the eighth progress report (see A/71/390, sect. VI).

142. From May 2016 to July 2017, 63 SAP technical training courses covering several SAP work streams, such as travel, human capital management, finance,

project systems, business planning, supplier relationship, security and process integration, were completed by a combined total of 264 staff members at a cost of nearly $700,000. These courses have ensured self-sufficiency in maintaining the deployed functionality and augmented readiness for Umoja Extension 2 projects. The project continues to implement an intense training plan, focused on Umoja Extension 2 processes and technologies and new SAP developments for the deployed functionality.

143. In its resolution 71/272 A, the General Assembly approved the Secretary-General's proposal to abolish 21 posts (3 D-1, 4 P-5, 10 P-4 and 4 General Service (Other level)) and establish 9 new posts (3 P-3, 2 P-2 and 4 General Service (Principal level)), with effect from 1 January 2017, for technical roles to complement the reorganization and reprofiling of resources. Of the nine new posts, seven have been filled, one General Service post in project systems will be filled in the fourth quarter of 2017 and one General Service post is being repurposed to strengthen SAP security-related work where it is more urgently needed, while other recruitments have adequately increased the capacity of SAP Human Capital Management.

144. To complement the new recruitments, training and transfer of knowledge from contractors, 14 posts vacated during the period between May 2016 and August 2017 were reclassified as SAP technical roles; another 8 posts have been earmarked for similar reprofiling or reclassification as project staff are mainstreamed to business units.

145. As presented in the eighth progress report and approved by the General Assembly, the Umoja team is currently composed of 78 posts. As at 31 August 2017, 59 of the 78 posts were encumbered, 3 were awaiting onboarding by the end of September and the end of October 2017, and 8 were blocked for staff on assignment, as illustrated in table 7.

Table 7
Status of Umoja post incumbency and vacancies as at 31 August 2017

Status	*ASG*	*D-2*	*D-1*	*P-5*	*P-4*	*P-3*	*P-2*	*GS (PL)*	*GS (OL)*	*Total*
Encumbered										
Regular	–	–	3	13	20	9	1	2	8	56
Temporary	1	–	1	–	–	–	1	–	–	3
Subtotal, encumbered	**1**	**–**	**4**	**13**	**20**	**9**	**2**	**2**	**8**	**59**
Under recruitment	–	–	–	–	–	1	1	1	–	3
Vacant	–	1	–	4	7	2	–	2	–	16
Subtotal, vacant	**–**	**1**	**–**	**4**	**7**	**3**	**1**	**3**	**–**	**19**
Total, authorized	**1**	**1**	**4**	**17**	**27**	**12**	**3**	**5**	**8**	**78**

Abbreviations: ASG, Assistant Secretary-General; GS, General Service; OL, Other level; PL, Principal level.

146. Continuing the trend initiated in 2016 towards progressively consolidating functions and skills, the organizational structure and distribution of posts for 2018, shown in annex II, reflect an overall reduction of posts, combined with a redistribution to better align capacity and skills with the evolving programme of work and technology road maps described above.

147. The reorganization will allow for the abolition of a further 13 posts, comprising 1 D-1, 7 P-5 and 5 P-4 posts, in areas in which resources can be drawn down by eliminating or redistributing work. Concurrently, similar to the nine new posts that were proposed in the eighth progress report for technical SAP work areas, seven new posts, comprising 3 P-3, 3 P-2 (to be hired through the young professionals programme) and 1 General Service (Principal level), are now proposed for establishment to continue the reorganization and reprofiling on the basis of the new mix of skill sets needed for Umoja Extension 2 and recent technological changes. Consequently, for 2018, the programme of work and related resource proposals outlined in the present report provide for a total of 72 posts, reflected in annex II, with continuing refinements to the organizational structure. In addition, temporary positions will be funded against other staff costs to supplement and adapt the staffing component of the project, as detailed in section VIII.

148. The 13 posts proposed to be abolished from 1 January 2018, including their current functional area of assignment, are identified in table 8.

Table 8
Posts proposed for abolishment in 2018

Post level	*Function work stream*	*Position number*
D-1	Technical projects	30077742
P-5	Deployment coordination	30077744
P-5	Technical services	30079762
P-5	Technical services	30079760
P-5	Logistics	30079758
P-5	Human resources	30079763
P-5	Human resources	30077749
P-5	Real estate, service delivery	30080074
P-4	Deployment coordination	30079785
P-4	Deployment coordination	30077756
P-4	Deployment coordination	30077757
P-4	Project management	30077753
P-4	Testing coordination	30079766

149. During 2019, depending on the pace of stabilization of Umoja Extension 2 deployments and placements of staff to business units, some more posts could be abolished towards the end of the year. For 2019, the resource requirements, including a continuing reorganization, will be presented in detail in the tenth progress report, to be submitted to the General Assembly at the main part of its seventy-third session, on the basis of the progress made during 2018.

VII. Risk management

150. In paragraph 5 of section XIV of its resolution 71/272 A, the General Assembly requested the Secretary-General to monitor key milestones and the overall timeline for the implementation of Umoja by identifying and proactively managing current as well as any emerging key risks to the achievement of the project's objectives and full implementation by December 2018.

151. In paragraph 7 of section XIV of the same resolution, the General Assembly requested the Secretary-General in his roll-out plan for the implementation of Umoja to conduct a thorough and objective assessment of the Organization's readiness for business change in order to avoid unforeseen impacts and unnecessary additional post-implementation reviews that could lead to deviations from the project's plans, cost projections and expected benefits.

152. The project continues to enhance its risk management to anticipate and address new project challenges. The following are the most significant risks being managed:

(a) Skilled staff resources are insufficient to fulfil the cumulative demand across planned Umoja work streams, including for continuous improvements. To mitigate this risk, the project's staff have been cross-trained extensively in existing functionality and newer technologies, and the offshore development team for the system integrator has also been restructured to realign the skills and capacity of the combined resource pool;

(b) Business areas may not have adequate capacity to support all existing and new Umoja processes. The ability of process owners and affected business units to absorb the indirect costs within their budgets without detriment to their mandated activities will be a key factor in managing this risk. During phases of significant software development and concurrent deployment, such as Umoja Extension 2, the pressure on a limited number of process experts to concurrently deal with testing, training, deployment and post-deployment support remains problematic. Process owners will have to build and strengthen teams globally and identify and allocate skilled resources as part of mainstreaming functions from the project. Business units also have to take greater ownership in creating and sustaining a sufficient number of local process experts to support their operations, and manage the knowledge and skills inventory of their Umoja user base;

(c) Change management and user adoption challenges for Umoja Extension 2 will intensify as a result of the volume and complexity of changes and the aggressive schedule for deployments. Many challenges will relate to new ways of working. Besides early engagement with business units, a gradual roll-out in some cases will be the preferred approach to mitigate such risks;

(d) The concurrent roll-out of new technologies and the diverse groups of affected users will create numerous technical and deployment interdependencies requiring strong project management and vendor management and extraordinary business commitment. Careful technical planning and extensive outreach and advocacy are planned to mitigate this risk.

VIII. Resource requirements

A. Expenditure for 2016-2017

153. In his eighth progress report, the Secretary-General submitted additional resource requirements of $26,811,400 for the biennium 2016-2017. In its resolution 71/272 A, the General Assembly approved the revised resource requirements.

154. The revised resource requirements for the biennium 2016-2017 reflected the initial phase of the reprofiling of staff resources and skills inventory to adapt to the needs of Umoja Extension 2, as well as the eventual downsizing and mainstreaming of the project team, outlined in section VI of the eighth progress report. The reprofiling and reorganization have been progressing as planned.

155. Table 9 presents the cumulative expenditure for the period from 2008 to2017.

Table 9
Expenditures, 2008-2017

(Thousands of United States dollars)

	2008-2017 approved	*2008-2017 projected*	*2008-2017 unused balance*
Posts	104 501.6	102 722.9	1 778.7
Other staff costs	55 601.6	54 497.1	1 104.5
Consultants and experts	3 348.4	2 953.5	394.9
Travel of staff	6 879.9	6 610.8	269.1
Contractual services	223 099.2	224 067.4	(968.2)
General operating expenses	23 833.4	23 044.8	788.6
Supplies and materials	976.5	914.8	61.7
Furniture and equipment	47 922.8	46 985.3	937.5
Total	**466 163.4**	**461 796.6**	**4 366.8**

B. Resource requirements for 2018 and 2019

156. During 2018, multiple Umoja Extension 2 work streams will involve an intense period of building, testing and deploying new functionality and technologies.

157. During 2019, most of the Umoja Extension 2 functionalities deployed will be in the extensive support phase. Some deployments will continue as new functionality is being used for the first time, such as for strategic planning and budget formulation, supply chain management and implementing partners. On the basis of lessons learned from previous deployments, a post-implementation review task force would be needed to channel and address the challenges relating to the adoption of the new functionalities. While contractual resources can be further reduced during 2019, the reduction of project staff will have to be more gradual, starting probably by the end of 2019, to allow for potential delays in deployment and unanticipated post-deployment problems. During this period, additional SAP as well as functional and technical cross-training for project staff will be essential to support the downsizing of the project team without compromising the ability to support all deployed functionality. Business units will also have to ensure the retention of capacity and skills that may have been augmented temporarily for Umoja Extension 2.

158. Estimates of the project resource requirements for 2018 and 2019 are summarized by object of expenditure in table 10, and projected total resource requirements from inception in table 11.

Table 10
Resource requirements for 2018-2019
(Thousands of United States dollars)

	2018 projected	*2019 projected*	*2018-2019 projected*	*Unused balance from 2008-2017*	*2008-[illegible] resource requirements*
Posts	13 000.0	12 000.0	25 000.0	1 778.7	23 221.3
Other staff costs	6 000.0	4 400.0	10 400.0	1 104.5	9 295.5
Consultants and experts	300.0	300.0	600.0	394.9	205.1
Travel of staff	750.0	450.0	1 200.0	269.1	930.9
Contractual services	28 335.0	12 000.0	40 335.0	(968.2)	41 303.2
General operating expenses	2 000.0	2 000.0	4 000.0	788.6	3 211.4
Supplies and materials	50.0	20.0	70.0	61.7	8.3
Furniture and equipment	140.0	200.0	340.0	937.5	(597.5)
Total	**50 575.0**	**31 370.0**	**81 945.0**	**4 366.8**	**77 578.2**

Table 11
Projected total resource requirements for the Umoja project
(Thousands of United States dollars)

	2008-2017 approved	*2018-2019 resource requirements*	*Total*
Posts	104 501.6	23 221.3	127 722.9
Other staff costs	55 601.6	9 295.5	64 897.1
Consultants and experts	3 348.4	205.1	3 553.5
Travel of staff	6 879.9	930.9	7 810.8
Contractual services	223 099.2	41 303.2	264 402.4
General operating expenses	23 833.4	3 211.4	27 044.8
Supplies and materials	976.5	8.3	984.8
Furniture and equipment	47 922.8	(597.5)	47 325.3
Total	**466 163.4**	**77 578.2**	**543 741.6**

Posts and other staff costs

159. The estimated requirement of $25,000,000 will provide for salary and common staff costs for 72 posts during 2018, with a drawdown to be phased gradually during the biennium until the end of 2019 on the basis of the progress of deployments and the transfer of skills from contractors for new technologies. The proposal for 72 posts in 2018 (1 Assistant Secretary-General, 1 D-2, 3 D-1, 10 P-5, 22 P-4, 15 P-3, 6 P-2, 6 General Service (Principal level) and 8 General Service (Other level)) reflects the second phase of the downsizing of the project team, which started on 1 January 2017, combined with additional mainstreaming that will rationalize the staffing structure gradually towards the steady-state support when the scope of Umoja has been fully deployed. With effect from January 2018, 1 D-1, 7 P-5 and 5 P-4 posts are proposed to be abolished and 3 P-3, 3 P-2 and 1 General Service (Principal

level) posts created to enable the reprofiling of resources to acquire and maintain the skill sets needed for Umoja Extension 2, as mentioned in paragraph 147 above.

160. During 2019, depending on the pace of stabilization of Umoja Extension 2 functionality and the progress of deployments, the number of positions could be gradually reduced towards the end of the year.

161. The estimated requirements for other staff costs in the amount of $10,400,000 reflect a provision for temporary positions during 2018 and 2019. These positions cover the continued engagement of business and technical experts during 2018 and the gradual reduction of resources in 2019, depending on the pace of stabilization of Umoja Extension 2 and the transfer of skills.

Consultants and experts, and contractual services

162. A provision of $600,000 will be required for the continued services of three consultants for expert services in logistics and project systems during 2018 and phased abolishment in 2019.

163. Projected resource requirements in the amount of $40,335,000 for contractual services comprise the estimated cost of new software licences, services required from the systems integrator and from SAP, primarily for the Umoja Extension 2 design and build, for staff augmentation for specialized skills for new functionality, and for post-deployment support and stabilization.

164. An estimated requirement of $500,000 is also included within contractual services for SAP technical training for the continued development of the SAP technical skills of the project's core staff to progressively reduce dependence on contractual resources for Umoja Extension 2 technology.

Travel and training of project staff

165. The Umoja Extension 2 projects comprise a wide array of new functionality and technologies and a very diverse group of stakeholders. The development and deployment schedules are aggressive and therefore extensive stakeholder engagement is crucial for successful deployment, while significant post-deployment support will be crucial for proper user adoption.

166. The estimated requirement of $750,000 during 2018 for travel for staff reflects the projected demand for travel of process experts for design, testing and data conversion workshops, for training and change management activities for multiple Umoja Extension 2 work streams, and for deployment and post-deployment ramp-up activities. During 2019, a reduced but significant level of resources ($450,000) is still needed for training and post-deployment support, including the resolution of business adoption challenges needing expert advice from the core project team.

General operating expenses

167. Estimated requirements for general operating expenses in the amount of $4,000,000 provide for rent, office equipment, service-level agreements for computer maintenance, and communications costs, with rent being the predominant expense. As a result of the downsizing of the project team, starting in 2017, space requirements have been reduced, with correlated reductions of expenditure in 2017 and projected requirements for 2018-2019.

Supplies and materials, and furniture and equipment

168. The estimated requirements of $70,000 for office supplies and materials and $230,000 for furniture and equipment are necessary to support the needs of the

project personnel during 2018 and 2019, especially for replacing desktop and laptop computers.

IX. Summary of resource requirements and request for action by the General Assembly

A. Proposed financing of projected resource requirements for 2018 and 2019

169. In its resolution 63/262, the General Assembly endorsed the cost-sharing arrangement for the financing of the enterprise resource planning project proposed by the Secretary-General in paragraph 79 of his report on enterprise systems for the United Nations Secretariat worldwide (A/62/510/Rev.1). The approved cost-sharing arrangement is 15 per cent from the regular budget, 62 per cent from the support account for peacekeeping operations and 23 per cent from the special accounts for programme support costs.

170. The Secretary-General requests that the resource requirements necessary to complete the planned activities to be undertaken during 2018 and 2019 be approved by the General Assembly. The proposed financing of the requirements would be apportioned in accordance with the approved cost-sharing arrangement, as illustrated in table 12.

Table 12
Summary of proposed resource requirements for 2018 and 2019, by source of funding

(Thousands of United States dollars)

Source of funds	Approved resources (1)	Total requirements	Proposed resources requirements	Percentage
Regular budget	69 924.5	81 372.7	11 448.2	15
Support account for peacekeeping operations	289 021.3	337 257.3	48 236.0	62
Extrabudgetary	107 217.6	125 111.6	17 894.0	23
Total	**466 163.4**	**543 741.6**	**77 578.2**	**100**

B. Recommended actions to be taken by the General Assembly

171. **The General Assembly is requested:**

(a) **To take note of the progress made in the implementation of Umoja since the issuance of the eighth progress report;**

(b) **To approve the resource requirements of the project until 31 December 2019, as presented in table 10, and based on the reorganization, reprofiling and mainstreaming presented in section VI;**

Programme budget

(c) **To approve an amount of $11,448,200, as presented under the proposed programme budget for the biennium 2018-2019 under section 29A, Office of the Under-Secretary-General for Management, representing the regular budget share for the Umoja project costs until 31 December 2019;**

Support account for peacekeeping operations

(d) **To note that resource requirements in the amount of $36,177,000 will be included in the subsequent requirements for the support account for peacekeeping operations for the financial period from 1 July 2018 to 30 June 2019 and $12,059,000 for the financial period from 1 July 2019 to 30 June 2020;**

Extrabudgetary resources

(e) **To note that requirements in the amount of $17,894,000 will be funded from extrabudgetary resources in the financial periods from 1 January to 31 December 2019.**

Annex I

Umoja transactional and business intelligence users and roles

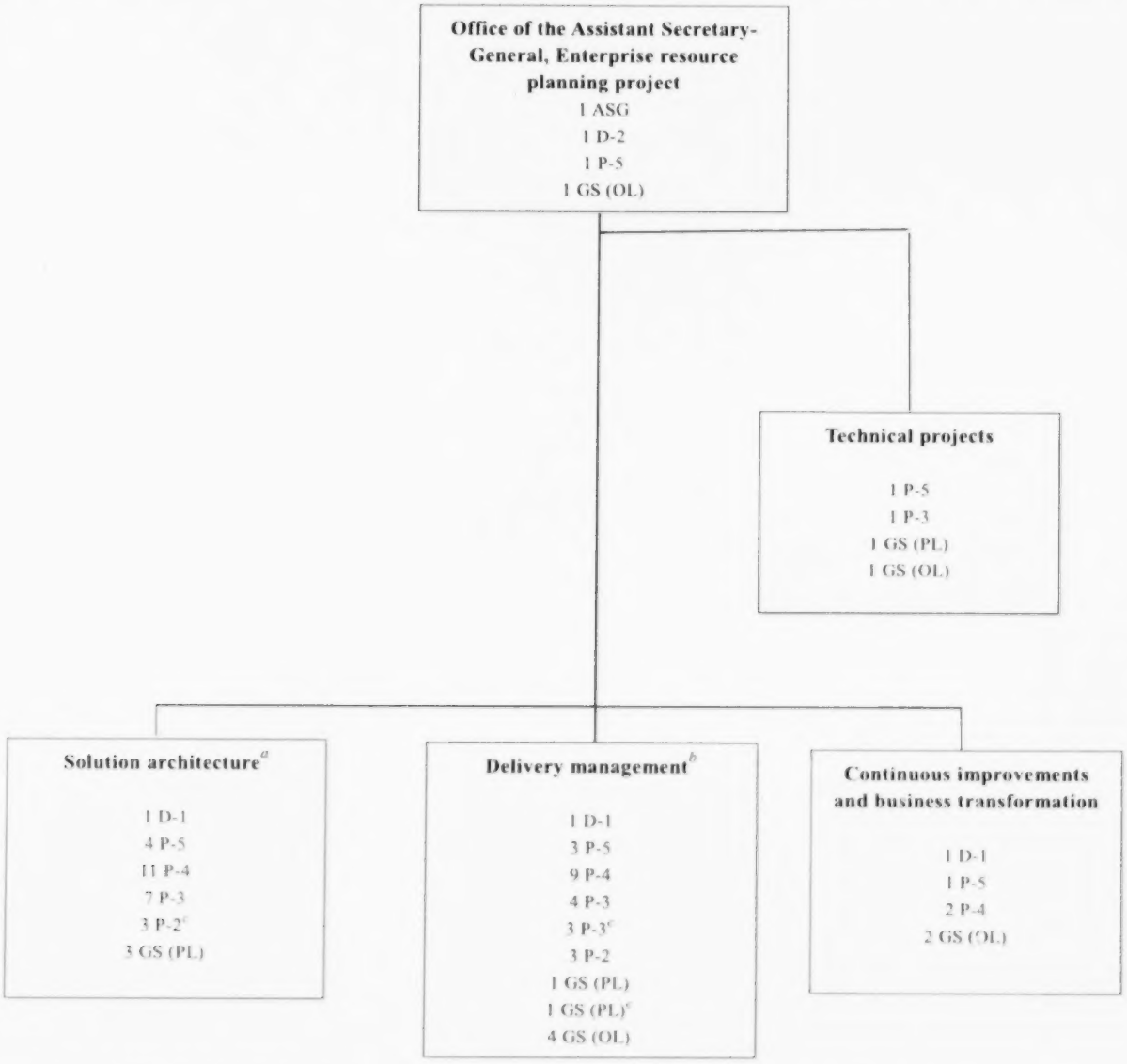
15,822 Umoja transaction and business intelligence users

103,457 roles provisioned

305 locations with an Umoja user (sized by count of roles provisioned)

Annex II

Organizational structure and post distribution for 2018



Abbreviations: ASG, Assistant Secretary-General; GS, General Service; OL, Other level; PL, Principal level.

[a] Broadly divided into finance integration (18) and supply chain management (11) for alignment with Umoja Extension 2 projects.

[b] Consolidates deployed functionality as much as possible into smaller, integrated teams.

[c] New post.